

STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID: K00003234

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

nalytical Supervisor

K00003234001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

12/17/2009 10:00

Sampler's Name: County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

Chlorine, residual: 38 Conductivity: uMHO Temperature: 8.41

Field Determinations

7.38

Dissolved Oxygen: 19.10 mg/L

Other:

pH:

Flow:

CFS

pH Units

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL.	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	370	μg/L	2.9	10	A Bass	12/29/2009	

TEST: ICP-MS	ME ⁻					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	. 310	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	1.4J	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	26	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.35J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.46J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	47	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.3	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.084J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	2.1J	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

12/17/2009 10:00

Sampler's Name:

Brandy Long

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

7.38

pH Units

Chlorine, residual:

Conductivity:

38

uMHO

Temperature:

8.41

Dissolved Oxygen: 19.10

mg/L

Other:

Flow:

CFS

TEST: Mercury METHOD: EPA 245.1							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill **Project Site No.:**

Station No.:

2B

Date/Time Collected:

EMORY001.9RO 12/17/2009 10:10

Sampler's Name:

Brandy Long

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

Flow:	CFS

7.38

38

8.59

pH Units

uMHO

mg/L

Field Determinations

Dissolved Oxygen: 15.07

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	ME	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	390	μg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS	ME	THOD: EPA 200	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	420	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	2.5J	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	31	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	0.11J	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.41J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	0.65J	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.58J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	45	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.079J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	2.1J	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY001.9RO

Date/Time Collected:

12/17/2009 10:10

Sampler's Name: County:

Brandy Long

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

TEST: Mercury

S Staller

			-
METHOD:	EPA	245.	1

Field Determinations

Dissolved Oxygen: 15.07

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.38

38

8.59

pH Units

uMHO

mg/L

CFS

ANALYTE	RESULT	UNITS	MDL	NIQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234003 TVA-Ash Spill

Project Name: Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

3

Station No.: Date/Time Collected:

EMORY001.7RO 12/17/2009 10:17

Sampler's Name: County:

Brandy Long

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Billing Code:

Send Report To:

Knoxville TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received: 12/17/2009

Received By:

S Staller

12:50

Field Determinations

7.13 pH:

Dissolved Oxygen: 15.74

Chlorine, residual:

Conductivity:

38

uMHO

pH Units

Temperature:

8.49

mg/L

Other:

CFS Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	330	μg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	1.6J	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	27	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	Ü	μg/L	0.41	1.	M Pattanayek	12/18/2009
Chromium	Ü	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.36J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.43J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	48	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
	0.058J	μg/L	0.03	1	M Pattanayek	12/18/2009
Thallium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Vanadium Zinc	Ü	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Project Site No.:

Sampler Project Name: TVA Ash Spill

3

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

12/17/2009 10:17

County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Mercury	cury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

Field Determinations

Dissolved Oxygen: 15.74

Chlorine, residual:

Conductivity:

Temperature:

7.13

38

8.49

pH Units

uMHO

mg/L

CFS

pH:

Other: Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00003234004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Project Site No.:

Sampler Project Name: TVA Ash Spill

3FD

Station No.: Date/Time Collected: EMORY001.7RO-FD

Sampler's Name:

12/17/2009 10:17

County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

7.13

pH Units

Chlorine, residual:

Conductivity:

38

uMHO

mg/L

Temperature: Dissolved Oxygen: 15.74

8.49

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	350	μg/L	2.9	10	A Bass	12/29/2009	

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	370	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U .	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	1.6J	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	27	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.37J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.48J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	46	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.056J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	2.0J	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

3FD

Station No.:

EMORY001.7RO-FD

Date/Time Collected:

12/17/2009 10:17

Sampler's Name: County:

Brandy Long

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

Date/Time Received:

TDEC-WPC TDEC-WPC

Priority Date:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

:Hq

7.13

pH Units

Chlorine, residual:

Conductivity:

38

uMHO

mg/L

Temperature:

8.49

Dissolved Oxygen: 15.74

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234005

Project Name: Sample Description: TVA-Ash Spill

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

Project Site No.:

3FB

Station No.:

EMORY001.7RO-FB

Date/Time Collected: Sampler's Name:

12/17/2009 10:17

County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	μg/L	2.9	10	A Bass	12/29/2009

TEST: ICP-MS	ME.	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	U	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	U	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	U	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	U	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	U	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	U	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Project Site No.:

Sampler Project Name: TVA Ash Spill

3FB

Station No.:

EMORY001.7RO-FB

Date/Time Collected:

12/17/2009 10:17

Sampler's Name:

Brandy Long

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.034J	μg/L	0.029	0.2	M Pattanayek	12/21/2009

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

CFS

Conductivity: Temperature:

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected: Sampler's Name:

12/17/2009 10:30

County:

Brandy Long ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations 6.93 pH Units pH:

Chlorine, residual:

Conductivity: 37 Temperature:

8.45 **Dissolved Oxygen: 17.47**

Other:

Flow: CFS

uMHO

mg/L

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	370	μg/L	2.9	10	A Bass	12/29/2009		

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	350	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	1.0J	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	25	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.34J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.41J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	46	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.044J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	2.0J	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

12/17/2009 10:30

Sampler's Name:

Brandy Long

County: Sample Matrix: ROANE - 73

EFO:

Water

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

Field Determinations

pH:

6.93

pH Units

Chlorine, residual:

Conductivity:

37

uMHO

Temperature:

8.45 Dissolved Oxygen: 17.47

mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

Date/Time Collected:

CLINC002.3RO 12/17/2009 10:50

Sampler's Name:

Brandy Long

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

167 9.91 uMHO

Temperature:

Dissolved Oxygen: 15.34

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
lron	220	μg/L	2.9	10	A Bass	12/29/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	160	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	32	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.26J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.39J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	58	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.039J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	U	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected:

12/17/2009 10:50

Sampler's Name: County:

Brandy Long

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

Field Determinations

Dissolved Oxygen: 15.34

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.59

167

9.91

pH Units

uMHO

mg/L

CFS

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected: Sampler's Name:

12/17/2009 11:00

County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To:

Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

7.74

pH Units

Chlorine, residual:

Conductivity:

53

uMHO

Temperature: 7.73 Dissolved Oxygen: 17.56

Other: Flow:

CFS

mg/L

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	370	μg/L	2.9	10	A Bass	12/29/2009	

TEST: ICP-MS	ME [*]	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	370	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	0.69J	μ g/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	5.5	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	34	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.35J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	1.2	μ g/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.50J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	50	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	· 1.1	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	0.096J	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	3.6J	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	2.3J	μg/L	1.9	5	M Pattanayek	12/18/2009

K00003234008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

12:50

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

Date/Time Collected:

KingAshOutF2 12/17/2009 11:00

Sampler's Name:

Brandy Long

County: Sample Matrix: **ROANE - 73**

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

Received By:

S Staller

Field Determinations pH: 7.74

Chlorine, residual:

Conductivity: Temperature: 53

pH Units **uMHO**

7.73

Dissolved Oxygen: 17.56

mg/L

Other:

Flow:

CFS

TEST: Mercury METHOD: EPA 245.1							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	M Pattanayek	12/21/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00003234009

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 15.36

Conductivity:

Temperature:

pH:

Other:

Flow:

7.10

208

10.46

pH Units

uMHO

mg/L

CFS

Project Site No.:

6

Station No.:

Date/Time Collected:

CLINC004.5RO 12/17/2009 10:35

Sampler's Name:

Brandy Long

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	12/18/2009				M Pattanayek	12/18/2009	

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	290	μg/L	2.9	10	A Bass	12/29/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	130	μg/L	6.4	10	M Pattanayek	12/21/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	12/18/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	12/18/2009
Barium	31	μg/L	2.5	5	M Pattanayek	12/18/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	12/18/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	12/18/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	12/18/2009
Cobalt	0.20J	μg/L	0.04	1	M Pattanayek	12/18/2009
Copper	U	μg/L	0.38	1	M Pattanayek	12/18/2009
Lead	0.32J	μg/L	0.10	1	M Pattanayek	12/18/2009
Manganese	52	μg/L	0.42	1	M Pattanayek	12/18/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	12/18/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	12/18/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	12/18/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	12/18/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	12/18/2009
Zinc	U	μg/L	1.9	5	M Pattanayek	12/18/2009

Sample Description:

K00003234009

Project Name:

TVA-Ash Spill

pH: Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 15.36

Conductivity:

Temperature:

Other:

Flow:

7.10

208

10.46

pH Units

uMHO

mg/L

CFS

Sampler Project Name: TVA Ash Spill Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

12/17/2009 10:35

Sampler's Name:

Brandy Long

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Mercury	METHOD: EPA 245.1							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Mercury	0.029J	μg/L	0.029	0.2	M Pattanayek	12/21/2009		

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

K00003234 Lab ID:

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Amalytical Supervisor

Project Name:

K00003234001 TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Date/Time Collected:

Project Site No.:

2

Station No.:

EMORY002.1RO

Sampler's Name:

12/17/2009 10:00 **Brandy Long**

County: Sample Matrix: **ROANE - 73**

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Received By:

Date/Time Received:

12/17/2009

S Staller

12:50

Field Determinations

pH: 7.38

Chlorine, residual:

Conductivity:

38

pH Units uMHO

Temperature:

8.41

Dissolved Oxygen: 19.10

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					*****
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	12/22/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	11	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009

TEST: Residue, Suspended	METHOD: SM 2540D							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Total Suspended Solids	22	mg/L	10	10	A Peeples	12/18/2009		

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill **Project Site No.:**

Station No.:

2B

Date/Time Collected:

EMORY001.9RO 12/17/2009 10:10

Sampler's Name: County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	12/22/2009

Field Determinations

Dissolved Oxygen: 15.07

Chlorine, residual:

Conductivity:

Temperature:

7.38

38

8.59

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME.	THOD: SM 350		· · · · · · · · · · · · · · · · · · ·		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	ME.	*****				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009

TEST: Residue, Suspended	ME:			<u>.</u>		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	39	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

3

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

12/17/2009 10:17

County:

Brandy Long ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:**

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

13

Received By:

Total Alkalinity

S Staller

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2	***		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE

mg/L

Field Determinations

Dissolved Oxygen: 15.74

Chlorine, residual:

Conductivity:

Temperature:

7.13

38

8.49

M Chen

pH Units

uMHO

mg/L

CFS

12/22/2009

:Hq

Other:

Flow:

3.8

10

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	12	mg/L	0.7	1	M Chen	12/21/2009	

TEST: Residue, Settleable	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009

TEST: Residue, Suspended	WE			<u> </u>		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	24	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234004 **Project Name:**

Sample Description:

TVA-Ash Spill

Sampler Project Name: TVA Ash Spill

Date/Time Collected:

Emory River mile 1.7

Project Site No.:

3FD

Station No.:

EMORY001.7RO-FD 12/17/2009 10:17

Sampler's Name:

Brandy Long

County: **Sample Matrix:** **ROANE - 73**

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: **Agency Invoiced:**

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	12/22/2009

Field Determinations

Dissolved Oxygen: 15.74

Chlorine, residual:

Conductivity:

Temperature:

7.13

38

8.49

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	12	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009	

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	26	mg/L	10	10	A Peeples	12/18/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Project Site No.:

Sampler Project Name: TVA Ash Spill 3FB

Station No.:

Date/Time Collected:

EMORY001.7RO-FB 12/17/2009 10:17

Sampler's Name:

Brandy Long ROANE - 73

County: **Sample Matrix:**

Water

EFO:

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

:Hq

Chlorine, residual:

Conductivity: Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	M Chen	12/22/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Suspended	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234006

Project Name:

TVA-Ash Spill

Sample Description:

Date/Time Collected:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill Project Site No.:

4

Station No.:

EMORY000.1RO 12/17/2009 10:30

Sampler's Name:

Brandy Long

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Alkalinity, Total	METHOD: EPA 310.2							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Total Alkalinity	12	mg/L	3.8	10	M Chen	12/22/2009		

Field Determinations

Dissolved Oxygen: 17.47

Chlorine, residual:

Conductivity:

Temperature:

6.93

37

8.45

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	13	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	ME.		· · · · · · · · · · · · · · · · · · ·			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009

TEST: Residue, Suspended	ME		· · · · · · · · · · · · · · · · · · ·			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234007

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

TVA Ash Call

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

12/17/2009 10:50

County:

Brandy Long ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT UNITS		MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	89	mg/L	3.8	10	M Chen	12/22/2009	

Field Determinations

Dissolved Oxygen: 15.34

Chlorine, residual:

Conductivity:

Temperature:

7.59

167

9.91

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	66	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	ME ⁻						
ANALYTE	RESULT	UNITS MD		MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	14	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Project Name:

K00003234008

Sample Description:

TVA-Ash Spill

Sampler Project Name: TVA Ash Spill

Clinch River TVA Discharge Point

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected: Sampler's Name:

12/17/2009 11:00

County:

Brandy Long ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009 12:50

Received By:

S Staller

Field Determinations

pH:

7.74

pH Units

Chlorine, residual:

Conductivity: Temperature: 53

7.73

uMHO mg/L

Dissolved Oxygen: 17.56 Other:

Flow:

CFS

TEST: Alkalinity, Total	ME:					
ANALYTE	RESULT	UNITS MDL		MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	12/22/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	21	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	RESULT UNITS MDL		MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	12/18/2009	

TEST: Residue, Suspended	ME					
ANALYTE	RESULT	UNITS N		MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00003234009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected: Sampler's Name:

12/17/2009 10:35 **Brandy Long**

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

12/17/2009

12:50

Received By:

S Staller

TEST: Alkalinity, Total	ME ⁻					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10 ⁻	M Chen	12/22/2009

Field Determinations

Dissolved Oxygen: 15.36

Conductivity:

Temperature:

7.10

208

10.46

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT UNIT		MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	84	mg/L	0.7	1	M Chen	12/21/2009

TEST: Residue, Settleable	eable METHOD: SM 2540F						
ANALYTE		RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue		U	ml/L	0.10	0.10	P Leathers	12/18/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	12/18/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit